

INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB2004/004046

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 F04D19/04 F04D17/16		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 F04D		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, PAJ		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/05310 A (DREXEL VOLKER ; GNAUCK PETER (DE); LEO ELEKTRONENMIKROSKOPIE GMBH (DE)) 17 January 2002 (2002-01-17) the whole document	1-25
X	EP 0 603 694 A (BALZERS-PFEIFFER GMBH) 29 June 1994 (1994-06-29) the whole document	26-47
A	claim 5	48-64
X	DE 24 42 614 A (SIEMENS AG) 18 March 1976 (1976-03-18) the whole document	1,25
X	US 6 193 461 B1 (HABLANIAN MARSBED) 27 February 2001 (2001-02-27) the whole document	1,25
----- -/--		
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
* Special categories of cited documents : "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the International filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family		
Date of the actual completion of the international search 12 April 2005		Date of mailing of the international search report 22 04 2005
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer Inge]brecht, P

INTERNATIONAL SEARCH REPORT

Intern..... Application No
PCT/GB2004/004046

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 302 667 A (THE BOC GROUP PLC) 16 April 2003 (2003-04-16) the whole document paragraphs [0015] - [0025] -----	26-47
A	US 5 733 104 A (GANSCHOW OTTO ET AL) 31 March 1998 (1998-03-31) the whole document -----	1,25

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2004/004046

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International Application No. PCT/ GB2004/ 004046

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-25

a differentially pumped vacuum system comprising a vacuum pump with a first and a second inlet in which 99% of the fluid pumped pass through at least one pumping stage of the vacuum pump

2. claims: 26-47

a differentially pumped vacuum system comprising a vacuum pump incorporating a Gaede pumping stage for pumping the chamber with the highest pressure

3. claims: 48-64

a compound vacuum pump with three pumping sections, a first and a second inlet and an additional inlet, which allows fluid flow through only a part of the third pumping section

INTERNATIONAL SEARCH REPORT

Information on patent family members

Intern:

Application No

PCT/GB2004/004046

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0205310	A	17-01-2002	DE 10032607 A1	24-01-2002
			CZ 20030367 A3	18-06-2003
			WO 0205310 A1	17-01-2002
			EP 1299898 A1	09-04-2003
			JP 2004503063 T	29-01-2004
			US 2004076529 A1	22-04-2004

EP 0603694	A	29-06-1994	DE 4331589 A1	30-06-1994
			EP 0603694 A1	29-06-1994
			JP 6280785 A	04-10-1994
			US 5733104 A	31-03-1998

DE 2442614	A	18-03-1976	DE 2442614 A1	18-03-1976

US 6193461	B1	27-02-2001	EP 1068456 A1	17-01-2001
			JP 2002536583 T	29-10-2002
			WO 0046508 A1	10-08-2000

EP 1302667	A	16-04-2003	AT 285523 T	15-01-2005
			DE 60202340 D1	27-01-2005
			EP 1302667 A1	16-04-2003
			JP 2003129990 A	08-05-2003
			US 2003086784 A1	08-05-2003

US 5733104	A	31-03-1998	DE 4331589 A1	30-06-1994
			EP 0603694 A1	29-06-1994
			JP 6280785 A	04-10-1994
